

# Introduction to NIDIS, Midwest DEWS and Strategic Plan

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# History of the National Integrated Drought Information System (NIDIS)

## Authorized in 2006

- **Why:**
  - Recognition that better informed and more timely drought-related decisions lead to reduced impacts and costs.
  - **Goal:** *“Enable the Nation to move from a reactive to a more proactive approach to managing drought risks and impacts”* PL 109-403

## Reauthorized in 2014

- Authorizes the appropriation of funds (via NOAA) through FY2018
- Develop and expand the Regional Drought Early Warning Systems



# What is NIDIS?

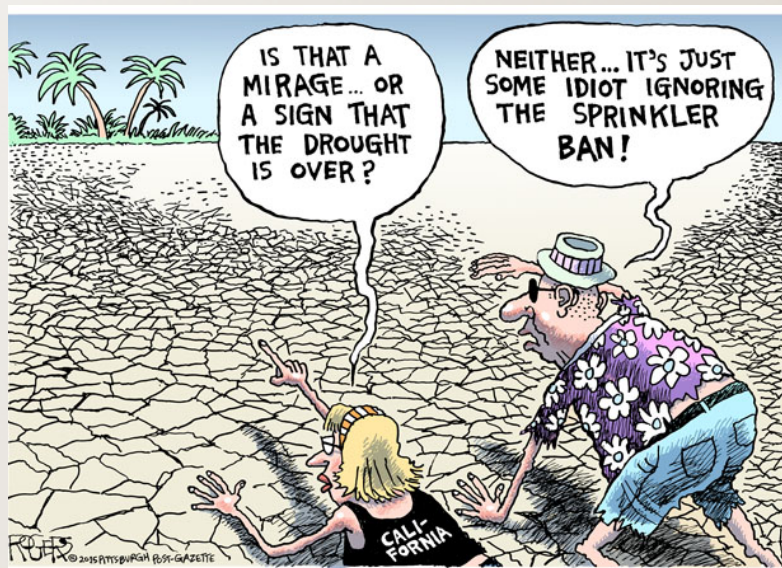
- NIDIS is congressionally authorized with specific mandates (Public Laws 109-430 and 113-86)
- Brings drought information, research, education, policy and networking together
- NOAA program that operates on an inter-agency level





# NIDIS Goals

- Leadership and networking among all sectors of the economy and services to monitor, forecast, plan for and cope with the impacts of drought
- Support drought research- including indicators, risk assessment and resilience
- Develop educational resources, interactive systems, and tools to promote sound decision making, drought awareness, and response

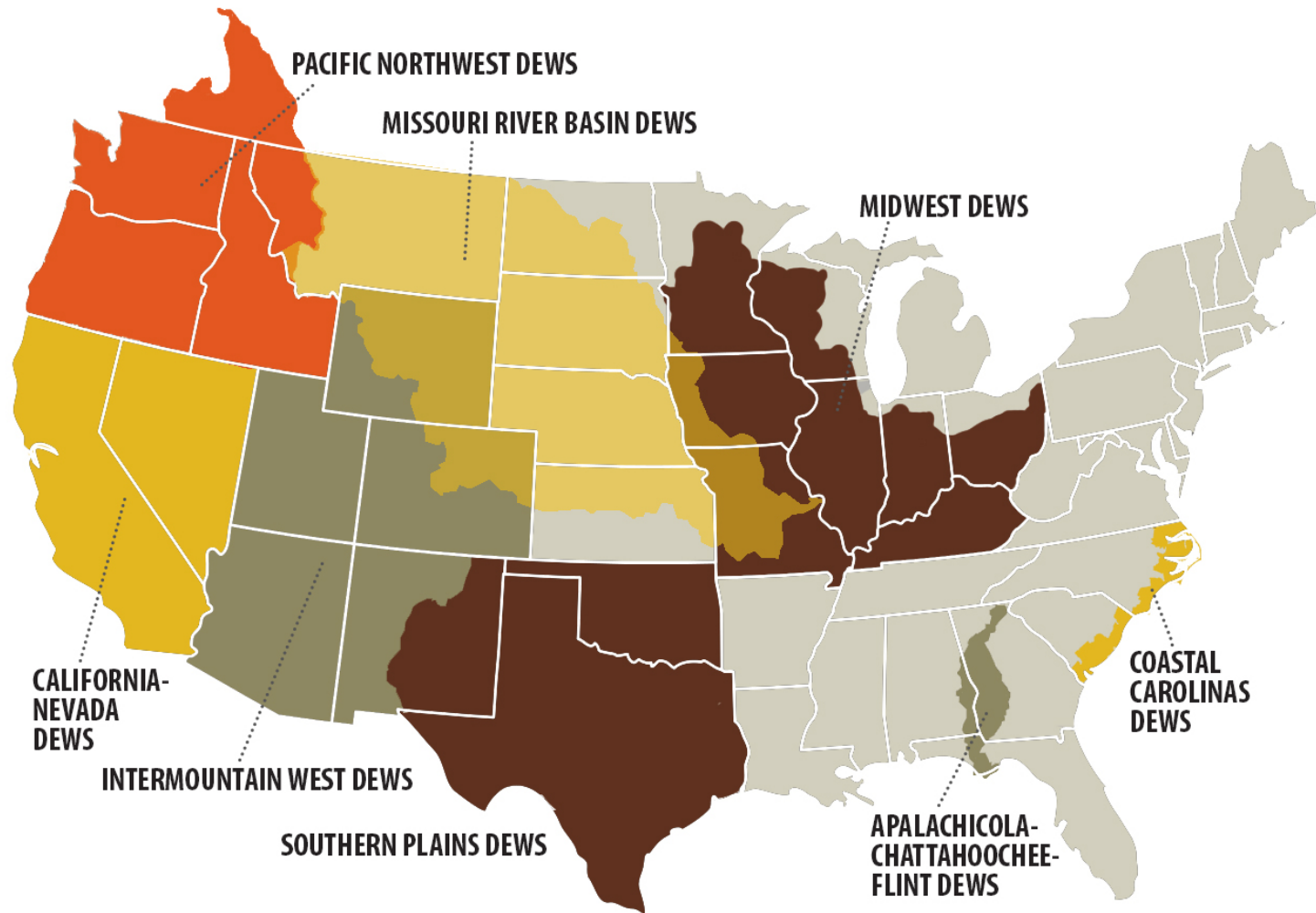


**How?** Development of Early Drought Warning Systems





# NIDIS Regional Drought Early Warning Information Systems

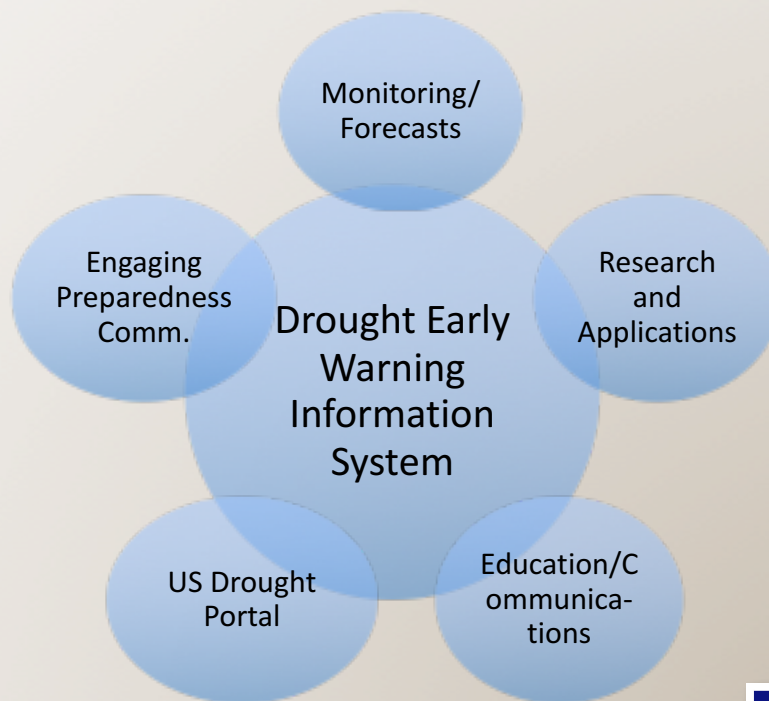


# What is Drought Early Warning System?



## What is a DEWS?

A DEWS utilizes new and existing partner networks to optimize the expertise of a wide range of federal, tribal, state, local and academic partners in order to make climate and drought science readily available, easily understandable and usable for decision makers; and to improve the capacity of stakeholders to better monitor, forecast, plan for and cope with the impacts of drought.



# This is what we want to avoid!





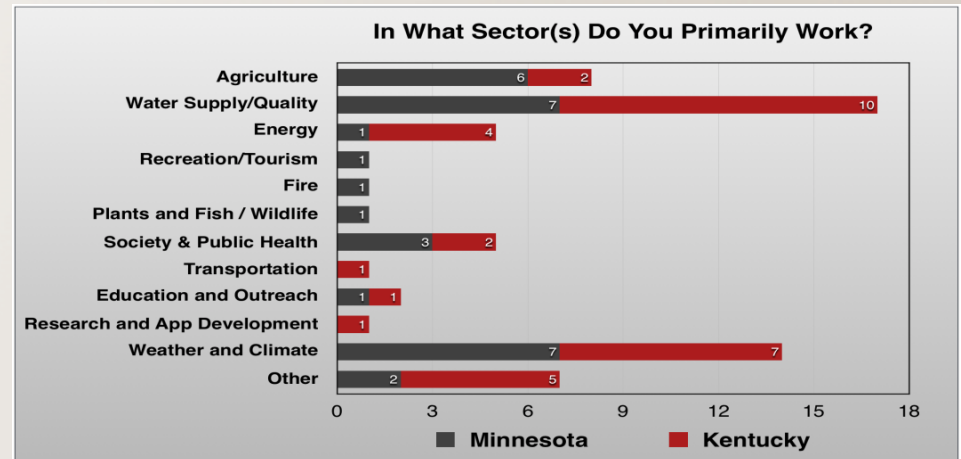
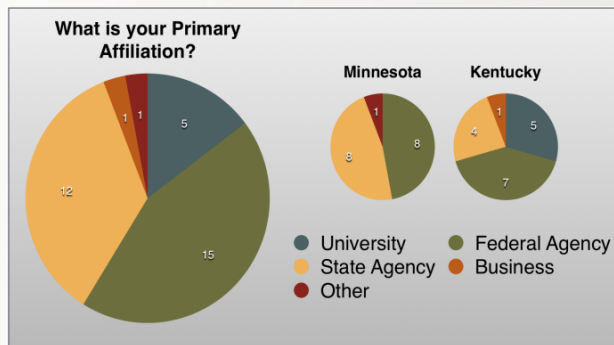
# Objectives of the Midwest DEWS

- Provide a forum for a diverse group of federal, tribal, state, and local stakeholders that represent the water and land resource management communities, to strategize and develop appropriate, relevant, useful and readily available drought, climate, weather and water-related information.
- Develop an understanding of the existing observation and monitoring networks, data, tools, research and other planning and mitigation resources available for a DEWS.
- Identify the economic sector-specific and geographic needs for future monitoring, prediction, planning and information resources.



# Midwest DEWS Planning Process

- Midwest Climate and Agriculture Workshop
  - Champaign, IL – Sept 29 through Oct 1, 2015
- Midwest Climate Outlook and DEWS Planning Workshops
  - **Ohio Valley** - Louisville, KY - Nov 3, 2015
  - **Upper Mississippi Basin** - Bloomington, MN - Nov 5 and 6, 2015
- DEWS Kick-off Workshop
  - St. Louis – Feb 9 – 11, 2016



Attendees at Nov Planning Workshops



# Strategic Plan

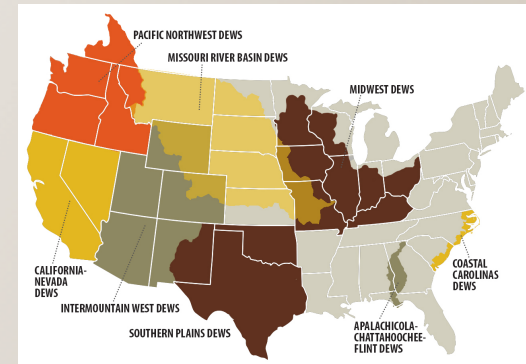
- Roadmap for moving forward with the Midwest DEWS
- Priorities (tasks) for the midwest region to improve drought early warning and resiliency
- Identify existing and new drought- related actions throughout the region
- 2-year time frame yet live document where will be updated





# Benefits of a DEWS Strategic Plan

- Fostering a regional network
- Collaboration and coordination
- Reference to help generate policy and governmental support
- Resource to assist with leveraging funds
- Foster sharing of activities and info across DEWS



# Strategic Plan and Leveraging Resources

1. What are the priorities? (needs)
2. What is going to be done?
3. Who is leading and others involved?
4. What are the deliverables?
5. What is the timeframe?
6. How is it going to be funded?



## Task 3 – Across Basin Activities

### Subtask 3.1 –Midwest/Great Plains Early Warning Webinars (monthly)

Regular coordination of federal entities and outlooks/data in the MRB

### Subtask 3.2 –Regional Monitoring

### Subtask 3.3 –USDA Northern Plains Climate Hub

### Subtask 3.4 –US Army Corps of Engineers: Working with USACE Outlooks and Monitoring Interaction

### Subtask 3.5 –Identify federal funding streams and ways to leverage them for supporting drought planning

# First Years of a DEWS



## Phase 1

### Scoping the DEWS

- Gap analyses
  - What info exists?
  - How is it being coordinated and used?
- Identify 2-3 critical issues
- Characterize and communicate risks across timescales for these critical issues

## Phase 2

### Implementation of the DEWS

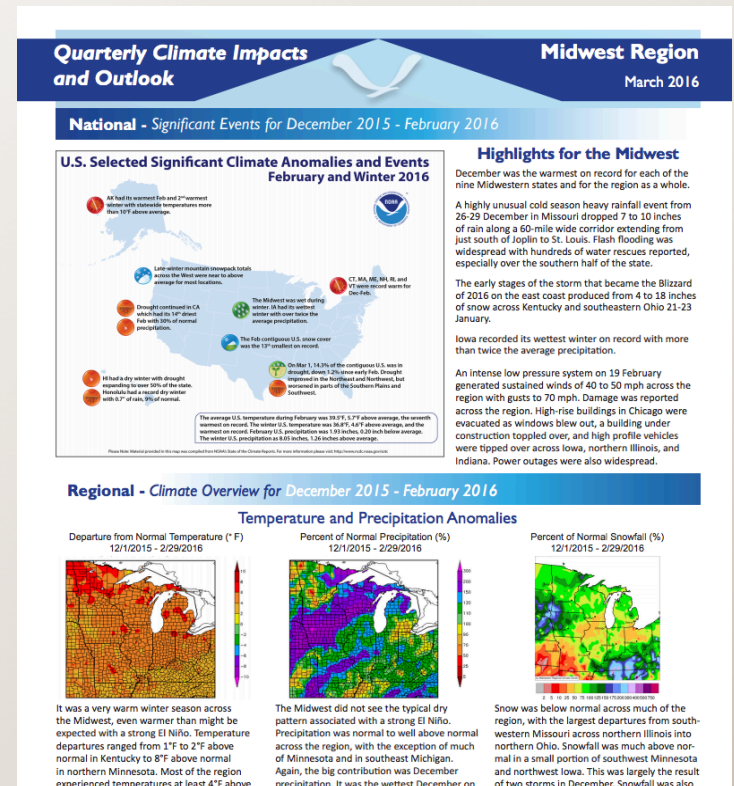
- Consider seasonal, multi-year, longer term trends
- Develop drought sub-portals
- Embed information into preparedness & adaptation plans
- Establish network for ongoing briefings on impacts and projections



# Task 1

## Integration of Networks to Foster Collaboration and Information Sharing

- DEWS outreach and communication
- Focused outreach on as-needed basis
- Inform the drought portal
- Federal partnerships
- Regional forums and assessment workshops
- Sector outreach
- Drought simulations



<http://mrcc.isws.illinois.edu/pubs/pubsMWquarterly.jsp>

# Task 2

## Integration of Data for Drought Planning and Vulnerability Assessments

- Leveraging existing citizen science and monitoring programs
- Strategies to improve collection and reporting of drought impacts
- Strategies to improve collection and reporting of adaptive capacities
- Support drought vulnerability assessments and drought planning

### Managing Drought Risk on the Ranch

#### Workshops and Webinars

##### Past Workshop and Webinars

**Looking Ahead: Soil Health, Drought Management, and Climate Change on the Ranch**  
Workshop presentations on soil health, managing pasture and rangelands, planning for drought, and using Risk Management Insurance products. Link to workshop information and presentations: [Beaver, OK](#), and the [Chickasaw Nation](#).

**Tracking Drought Impacts on Rangelands**  
How to monitor rangelands during and after drought, use photopoints, download and use a new photopoints application called GrassSnap, and submit drought impacts to the NDMC's Drought Impact Reporter. Presented May, 2014 via webinar. [More information, presentations, YouTube videos...](#)

**Managing Extreme and Extended Drought on the Farm and Ranch**  
Information for ranchers and irrigated crop producers who are dealing with long-term choices associated with declining aquifer levels. Presented January 9, 2014 in Garden City, KS. [More information and presentations...](#)

**Managing Drought Risk on the Ranch Professional Development Webinar Series**  
Drought planning techniques and technologies for ranchers and rangeland advisors, including an introduction to the planning process, monitoring and setting critical dates, assessing drought impacts and evaluating grazing strategies, making stocking decisions, and determining the financial impacts of drought management. Presented January - May, 2013 via webinar. [More information, presentations, YouTube videos...](#)

### Managing Drought Risk on the Ranch

A Planning Guide for Great Plains Ranchers



University of Nebraska - Lincoln  
National Drought Mitigation  
Center

Available Online at  
[www.drought.unl.edu/ranchplan](http://www.drought.unl.edu/ranchplan)

USDA  
United States Department of Agriculture  
Risk Management Agency



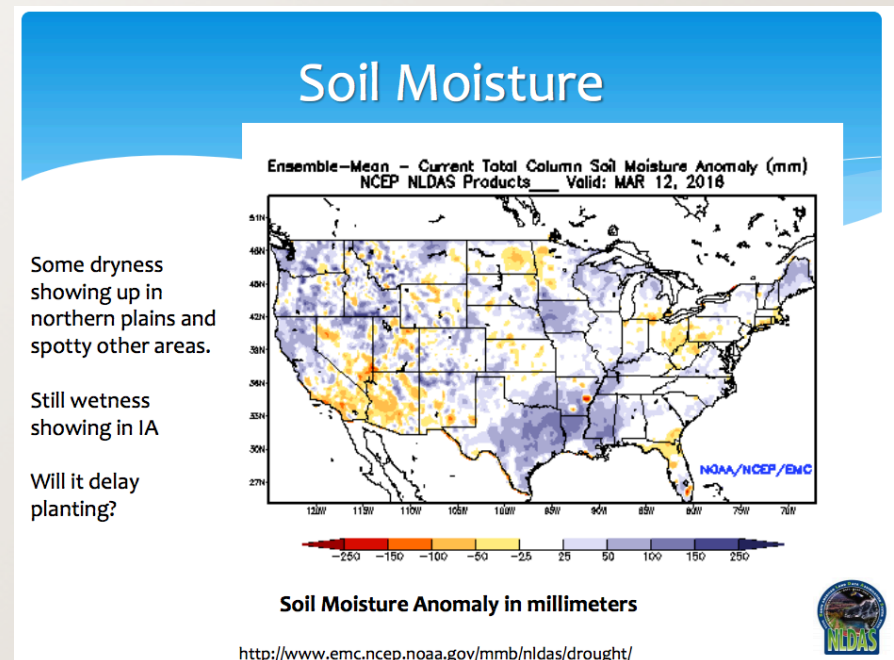
University of  
**Nebraska**  
Lincoln



# Task 3

## Hydrologic and Climate Processes

- Development of web service for hourly climate data
- Regional Mesonet Program





# Task 4

## Drought Education and Public Outreach

- Social marketing study on drought messaging to the public
- Public outreach and communications workshop



# Contact Information

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# Revisit Needs from the Midwest DEWS Kickoff Workshop

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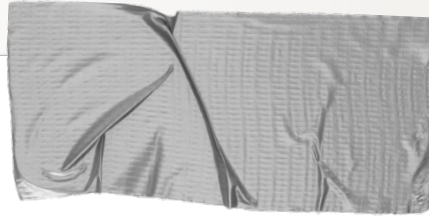


Rochester, MN  
November 7 and 8, 2016





# Revisit Needs from the Midwest DEWS Kickoff



## Our Tasks

- **Introduction Discussion (5 – 10 min)**  
Overview
- **Discuss Drought Related Issues and Opportunities to Leverage (10 min)**  
Identify “pet” projects/activities
- **Top selections (5-10 min)**  
What can the Midwest DEWS do to support these actions?

# Regional “Pet Projects”

## **Klamath River Basin:**

Provide integrated hydroclimate information for a complex water environment through access to a variety of historical, current, and forecast data

## **Russian River:**

Focus on hydrologic extremes with droughts draining reservoirs and precipitation events filling reservoirs

## **Southern California:**

Address the complexities of urban droughts in a well-plumbed system that is heavily reliant on imported water

## **Central Valley:**

Monitor extent of fallowed land using Landsat satellite digital imagery to identify changes during drought



# Examples of Midwest “Pet Project” Ideas

- Leverage UMRBA Watershed Study
  - Issue: Need better understanding of how surface water and sediment move in high and low flow conditions
  - Pet project: work with UMRBA to add study of sediment transports under low-flow conditions
  - Resources/people: UMRBA, NIDIS, USACE, local participants, etc
- Increased Groundwater Irrigation during Drought
  - Issue: What are impacts on groundwater resources with increased irrigation demand during drought and how can this be managed?
  - Pet project: Study and risk assessment
    - What could the demand be and what could the system handle?
  - Resources/people: city/county water use data, state geologic surveys, USGS, DNR, USDA





# Regional Drought-Related Issues

- What are some of the major drought-related issues that you would like to see addressed in this region over the next 1 to 5 years?
- What would be your “pet project/activity”

## Opportunities to Leverage Resources

- Are there groups already working/interested in this? If so, who?

